

REMARKS

Response to the Office Communication Dated November 9, 2004

The Office Communication asserts that the response filed on August 12, 2004, is not fully responsive to the prior Office Action because the newly submitted claims are directed to non-elected subject matter. The Office Communication alleges that applicant has received an action on the merits for the originally presented invention.

It is respectfully pointed out that Applicant has not yet received a complete action on the merits for this application. As indicated on page 4, last paragraph of the Office Action issued on March 12, 2004, the claims could not be searched and therefore could not be rejected. Page 4, last paragraph of the Office Action states:

Given the rejections above, and the general unsearchable nature of the claims, it is not reasonable or possible to reject the claims as presented over the prior art.

Accordingly, the Patent Office has not issued a complete action on the merit for this application. Thus, the prejudice of having conducted a prior art search of a different invention does not apply here.

Moreover, the invention elected on December 31, 2003, in response to the Restriction Requirement issued November 3, 2003, is an inhibitor that inhibits a mutant enzyme differently from its corresponding wild-type enzyme. The currently presented claims are directed to the same invention. The claimed inhibitors are characterized in the current claims as more selective for mutant enzyme as compared to the corresponding wild-type enzyme. Although the words chosen to describe the inhibitors in currently presented claims 77-104 are not the same as those used to describe the inhibitors in original claims 1-3 and 74-76, currently presented claims 77-104 are directed to the same invention, *i.e.* selective inhibitors, as claims 1-3 and 74-76. In fact, the words chosen to describe the inhibitors in claims 77-104 were suggested by Examiner Jon Weber during our phone interview on April 1, 2004. As discussed during the phone interview, the inhibitors disclosed in the application are more selective for the mutant enzyme than its corresponding wild-type enzyme, and Examiner Weber recommended the change in wording.

The Office Communication also alleges that the originally elected invention is directed to “an inhibitor with no catalytic activity of a wild-type enzyme.” Applicants respectfully point out

that original claim 1 did not state that the inhibitor has no catalytic activity of a wild-type enzyme. As discussed above, originally filed claim 1 uses different words to describe the claimed inhibitor. Original claim 1 describes the claimed invention as an inhibitor that does not inhibit a catalytic activity of a wild-type enzyme but inhibits the same catalytic activity of the corresponding mutant enzyme. Original claim 1 is directed to an inhibitor that inhibits a mutant enzyme differently from the way it inhibits the corresponding wild-type enzyme.

Claims 1-3 and 74-76 and currently presented claims 77-104 are both directed to inhibitors that interact with a mutant enzyme differently from its corresponding wild-type enzyme. Accordingly, this response is responsive to the prior Office Action.

Phone Interview on April 1, 2004

Applicant would like to thank the Examiner Weber for his time spent in discussing the case over the telephone and for the helpful suggestions for amending the claims to overcome the pending rejections.

Election/Restrictions

Applicant would like to thank the Examiner for withdrawing the restriction between Groups I (claims 1-3) and IV (claims 74-76). Accordingly, the invention of claims 1-3 and 74-76 is currently examined in the present application.

Status of the Claims

Claims 1-76 have been canceled. New claims 77-104 replace claims 1-3 and 74-76. Support for the new claims is summarized in the table below.

Claim(s)	Support
77	Original claim 1; Paragraph 287, line 6; Paragraph 305, line 5; Paragraph 84, lines 1-4.
78	Paragraph 278, line 5
79	Paragraph 289, line 12; Paragraph 278, line 6
80	Paragraph 253, line 10

81	Paragraph 277, line 3
82	Paragraph 90, line 1
83	Paragraph 20, lines 4-7
84, 98	Paragraph 20, lines 4-7
85, 99, 100, 103	Original claims 13, 25, 27, 29, 31, 33
86, 101, 102, 104-108	Original claims 14, 15, 26, 28, 30, 32,33; Paragraph 192, line 1; Paragraph 196, line 1; Paragraph 200, line 7
87	Paragraph 37, line 3
88	Paragraph 191, lines 1-5
89	Paragraph 84, line 8; Paragraph 190, lines 5-7
90	Paragraph 192, line 2
91	Paragraph 84, line 8; Paragraph 190, lines 5-7
92	Original claim 2
93	Original claim 5
94	Original claim 3
95	Original claim 6
96	Original claim 66
97	Original claim 67

New claims 77-97 provide separate specific embodiments of the claimed invention. New claims 77-97 are directed to the same invention as claims 1-3 and 74-76. Specifically, new claims 77-93 are directed to inhibitors, and new claims 94-104 are directed to methods of using the inhibitors of claim 77. New claims 77-92 are based on original claims 1 and 2, and new claims 94-104 are based on original claims 3 and 76.

Rejection Under 35 U.S.C. §§ 101 and 112, First Paragraph

Claims 1-3 and 74-76 are rejected under 35 U.S.C. §§ 101 and 112, first paragraph, as lacking credible utility and failing to comply with written description requirement.

Claims 1-3 and 74-76 have been canceled and replaced with new claims 77-104. New claims 77-93 as they stand are directed to inhibitors that have about 15 fold to about 15,000 fold greater selectivity for a mutant enzyme as compared to its selectivity for the corresponding wild-type enzyme. New claims 94-104 are directed to methods of using such inhibitors. The mutant enzyme has the same amino acid sequence as its corresponding wild-type enzyme except the mutant enzyme contains amino acid mutations in its catalytic domain.

As shown throughout the specification, these inhibitors inhibit the catalytic activity of a mutant enzyme. For example, the inhibitor inhibits the phosphorylation of a substrate (paragraph 245), and the growth of a cell expressing the mutant enzyme (paragraphs 311-314), and the inhibitor disrupts the transformation in a cell that expresses the mutant enzyme (paragraphs 257, 258, 281). As shown in the Examples, the inhibitors of the present invention are more selective towards the mutant enzymes than the wild-type enzymes, even when the mutant enzyme and the wild-type enzyme differ by only one amino acid in their catalytic domain. (see specifically, Examples 16-19). Accordingly, the claimed invention has credible utility.

Moreover, the specification provides adequate written description for the claims. The specification describes the inhibitors, their selectivity for the mutant enzymes as compared to wild-type enzymes, and provides examples of the inhibitors and methods of using the inhibitors throughout the text. The specification also describes mutant enzymes and provides examples of the mutant enzymes comprising amino acid mutations in the catalytic domain. Accordingly, the specification provides sufficient written description to convey to one of ordinary skill in the art that the invention at the time the application was filed, had possession of the claimed invention.

Applicant respectfully requests withdrawal of the rejection.

Rejection Under 35 U.S.C. § 112, Second Paragraph

Claims 1-3 and 74-76 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-3 and 74-76 have been canceled and replaced with claims 77-104. Applicant notes that the definition of “mutant” is defined in paragraph 84 of the specification. Thus, the rejection is deemed to be moot.

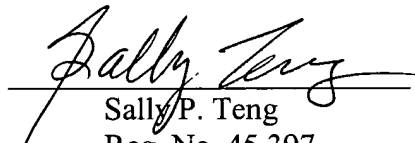
Conclusion

The foregoing amendments and remarks are being made to place the application in condition for allowance. Applicant respectfully requests entry of the amendments, reconsideration, and the timely allowance of the pending claims. A favorable action is awaited. Should the Examiner find that an interview would be helpful to further prosecution of this application, they are invited to telephone the undersigned at their convenience.

Except for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310.

Respectfully submitted,

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Dated: December 9, 2004
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